CLAIMS

What is claimed is:

1) An iterative method of laying out elements in a defined space, wherein the layout includes content data and design data, said content data including alphanumeric and/or graphical elements, and said design data including a rule or rules associated with a particular alphanumeric element or graphical element, said rule defining a scoring system which defines a score dependent on a degree of conformance to said rule, the method including the steps of:

   (a) arranging geometrically the alphanumeric and/or graphical elements included in the content data;

   (b) scoring the resulting layout according to the rule or rules included in the design data;

   (c) storing said score; and

   (d) repeating the above steps (a) to (c) for a plurality of iterative alphanumeric and/or graphical layouts.

2) A method as recited in claim 1), wherein the defined space is a page of a book.

3) A method as recited in claim 1), wherein the defined space is to be displayed on a screen.

4) A method as recited in claim 1), further including a step (e) of selecting an optimal layout of the different alphanumeric and/or graphical elements from the plurality of iterative layouts based on the layout having the highest score in said step (b).

5) A method as recited in claim 4), further including a step (f) of repeating said steps (a) through (e) to provide a finished work included of a plurality of defined spaces.

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6) A method as recited in claim 1), said step (b) of scoring including the step of scoring a high value for an alphanumerical element and/or graphical element that has an optimal relative position in the space, and the step of scoring a low value for an alphanumerical element and/or graphical element that has an

10   poor relative position in the space, the rule or rules determining the optimal and poor position in the space.

7) A method of laying out one or more elements in a defined space, the method including the steps of:

15   (a) setting a rule relating to the desired positioning of the one or more elements in the space;

(b) positioning the alphanumeric and/or graphical elements in the space;

(c) scoring the positioning of said step (b) depending on a degree to which the positioning of said step (b) conforms to the rule of said step (a);

20   (d) repositioning the one or more elements in the space;

(e) rescoring the positioning of said step (d) depending on a degree to which the positioning of said step (d) conforms to another rule that has been defined for the element; and

(f) positioning the one or more elements in the position of said step (b) or

25   said step (d) depending on which step resulted in a higher score.

8) A method as recited in claim 7, wherein the space is a page of a book.

9) A method as recited in claim 7, wherein the space is a frame to be displayed on a screen.

10) An iterative method of laying out elements in a defined space, wherein the layout includes content data and design data, said content data including alphanumeric and/or graphical elements, and said design data including a rule or rules associated with a particular alphanumeric element or graphical element, said rule or rules defining a scoring system which defines a score dependent on a degree of conformance to said rule or rules, the method including the steps of:

(a) arranging geometrically the alphanumeric and/or graphical elements included in the content within a space;

(b) determining whether the space for the alphanumeric and/or graphical elements arranged in said step (a) exceeds the limited space;

(c) resizing the alphanumeric and/or graphical elements if the space for the alphanumeric and/or graphical elements arranged in said step (a) exceeds the limited space;

(d) repeating the above steps (a) to (c) until the space for the alphanumeric and/or graphical elements arranged in said step (a) fits within the limited space; and

(e) arranging the alphanumeric and/or graphical elements within the limited space after said step (d) based on the rule or rules to determine a layout.

11) Apparatus for laying out elements in a defined space, the apparatus being formed from a processing system including:

(a) A store for storing:

(i)   content data including alphanumeric and/or graphical elements, and

    (ii)   design data including a rule or rules associated with a particular alphanumeric element or graphical element, said rule defining a scoring system which defines a score dependent on a degree of conformance to said rule,

5   (b) a processor adapted to:

    (i)   arrange geometrically the alphanumeric and/or graphical elements included in the content data to generate a layout;

    (ii)   score the resulting layout according to the rule or rules included in the design data;

10   (iii)   store said score; and

    (iv)   repeat the above steps (b)(i) to (b)(iii) for a plurality of iterative alphanumeric and/or graphical layouts.

12) Apparatus according to claim 11, the processing system including a display

15   for presenting layouts to the user.

13) Apparatus according to claim 12, the processing system being adapted to:

    (a) select a respective layout; and,

    (b) generate output data representing the selected layout.

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14) Apparatus according to claim 13, the processing system being adapted to select the layout in accordance with at least one of:

    (a) Input commands received from a user; and,

    (b) The respective layout score.

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15) Apparatus according to claim 13 or claim 14, the processing system being coupled to a communications network, the processing system being adapted to:

(a) receive the content and/or designs data from one or more end stations
5 coupled to the communications network; and,

(b) store the received content and/or designs data in the store.

16) Apparatus according to claim 15, the processing system being adapted to transfer the output data to a selected end station.

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17) Apparatus according to any one of the claims 11 to 16, the processing system being adapted to determine the content and/or designs data in accordance with input commands received from a user.

15 18) Apparatus according to any one of the claims 11 to 17, the apparatus being adapted to perform the method of any one of the claims 1 to 9.

19) Apparatus for iteratively laying out elements in a defined space, the apparatus being formed from a processing system including:

20 (a) A store for storing:

(i) content data including alphanumeric and/or graphical elements, and

(ii) design data including a rule or rules associated with a particular alphanumeric element or graphical element, said rule defining a scoring system which defines a score dependent on a degree of
25 conformance to said rule,

(b) a processor adapted to:

(i) arrange geometrically the alphanumeric and/or graphical elements included in the content within a space;

(ii) determine whether the space for the alphanumeric and/or graphical elements arranged in said step (a) exceeds the limited space;

(iii) resize the alphanumeric and/or graphical elements if the space for the alphanumeric and/or graphical elements arranged in said step (a) exceeds the limited space;

(iv) repeat the above steps (b)(i) to (b)(iii) until the space for the alphanumeric and/or graphical elements arranged in said step (b)(i) fits within the limited space; and

(v) arrange the alphanumeric and/or graphical elements within the limited space after said step (b)(iii) based on the rule or rules to determine a layout.

20) Apparatus according to claim 19, the apparatus being apparatus according to any one or the claims 11 to 19.

21) Apparatus according to claim 19 or claim 20, the apparatus being adapted to perform the method of claim 10.